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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,215	11/22/2000	Akira Ohta	49657-844	9517

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WASHINGTON, DC 20005-3096

EXAMINER

CHANG, JOSEPH

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/717,215

Applicant(s)

OHTA ET AL.

Examiner

Joseph Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) 7,9-32,39 and 41-67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 33-38 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Appeal Brief

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Specification

The disclosure is objected to because of the following informalities: The comma between "element and having" in Page 4, line 26 creates inconsistency to the claimed invention and it should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 8, 33-38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makino et al. US Patent No. 5945,887 in view of Honjo US Patent No. 5,473,281 of record.

Makino et al. discloses a high efficiency amplifier (10) in figure 2, connected to a non-reciprocal circuit element (Isolator 1, see col. 4, lines 45-51) having an input impedance (2-12.5 ohms) lower than a standard impedance (50 ohms) and an output impedance substantially equal to the standard impedance (see figure 2), comprising an input terminal (left end of 10), an output terminal (right end of 10) connected to the non-reciprocal circuit element (1), an amplifier element (13,15) to amplify the input signal, and a matching circuit (16). However, Makino et al. does not explicitly disclose that the matching circuit 16 has one or plurality of harmonic processing circuits arranged between the amplifier element (15) and the output terminal (right end of 10) to process a harmonic in an output signal of the amplifier element.

Honjo discloses an impedance matching circuit (2, 3, 4) in figure 2 including two harmonic processing units (3, 4) for suppressing unwanted second and third harmonic components (see col. 3, lines 43-55).

Accordingly, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include harmonic processing circuits, as taught by Honjo, in the matching circuit (16) of Makino et al. because such a modification would have been advantageously provided not only suppression of unwanted harmonic

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components but also impedance matching between the output amplifier element and the output terminal for optimum energy transfer.

Regarding Claim 2, the amplifier circuit 10 has an output impedance range of 2-12.5 ohms, which falls within the claimed impedance range of 3-30 ohms.

Regarding claims 3-6 and 35-38, the modified matching circuit of Makino et al. in view of Honjo obviously performs suppressing harmonic-related power leakage, thereby matching the impedance of the harmonic or serving as an open or short circuit load to the harmonic in the output signal of the amplifier circuit (see column 3, lines 44-55 of Honjo).

Regarding Claims 8 and 40, the modified matching circuit of Makino et al. in view of Honjo obviously performs a fine adjustment of an impedance of a fundamental wave in an output signal of the amplifier element (see column 4, lines 45-62 of Makino et al., the matching circuit (16) of Makino et al. corresponds to a fundamental wave regulator circuit).

Response to Arguments

Applicant's arguments with respect to claims 1-6,8,33-38, and 40 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is (703) 308-4800. The examiner can normally be reached on Mon-Thur 0630-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7722 for After Final communications. In addition, the official TC2800 RightFAX numbers are Before-Final (703-872-9318) and After-Final Fax numbers (703-872-9319). These RightFAX numbers provide the fax sender with an auto-reply fax verifying receipt of their fax by the USPTO.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JC
April 28, 2003



Robert Pascal
Supervisory Patent Examiner
Technology Center 251